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JAPANESE PATENT OFFICE

PATENT ABSTRACTS OF JAPAN

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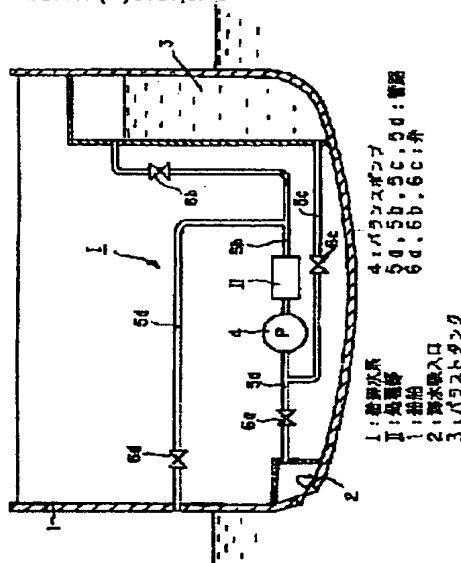
(51) Int. Cl.

**C02F 1/48
B63B 13/00**(21) Application number: **2000394857**(22) Date of filing: **26.12.00**(71) Applicant: **MITSUBISHI HEAVY IND LTD**(72) Inventor:
**TAKEUCHI KAZUHISA
KAWAMURA KEISUKE
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TANAKA YUTAKA****(54) TREATING METHOD FOR SHIP BALLAST WATER AND ITS TREATING APPARATUS** COPYRIGHT: (C)2002,JPO

(57) Abstract:

PROBLEM TO BE SOLVED: To provide a treating apparatus for ship ballast water, which does not obstruct navigation by the treating work and renders prescribed harmful microorganisms harmless efficiently with small motive energy.

SOLUTION: A ballast water treating part II is installed in the middle of a pipe line 5 in a water supply/discharge system I to render harmful microorganisms harmless, which exist in ballast water introduced into a ballast tank 3 or in ballast water discharged from the ballast tank 3. The treating part II has electrodes that face the ballast water and apply a high-voltage pulse to it. The harmful organisms are damaged and defused by directly applying high voltage to them and therefore causing electric discharge in them, or they are damaged and defused indirectly by the energy of shock waves that are produced by arc discharge generated when the high-voltage pulse is applied across the electrodes.



PN - JP2002192161 A 20020710
 TI - TREATING METHOD FOR SHIP BALLAST WATER AND ITS
 TREATING APPARATUS

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ICO - M02F103/00S; M02F201/48D2
 FI - B63B13/00&Z; C02F1/48&B
 PA - MITSUBISHI HEAVY IND LTD
 IN - TAKEUCHI KAZUHISA; KAWAMURA KEISUKE; OE
 KIYOTO; TANAKA YUTAKA

AP - JP20000394857 20001226
 PR - JP20000394857 20001226
 DT - I

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AN - 2003-078582 [08]
 TI - Ballast water processing in vessels, involves applying high voltage between electrodes placed in ballast water flow path
 AB - JP2002192161 NOVELTY - A high voltage is applied between electrodes placed in a ballast water flow path.

- USE - For ballast water processing in vessels, e.g. tankers in harbors.
 - ADVANTAGE - Harmless and harmful microorganisms in the ballast water are destroyed efficiently.
 - DESCRIPTION OF DRAWING(S) - The figure shows a sectional view of the ballast water processing apparatus. (Drawing includes non-English language text).
 - (Dwg. 1/19)

IW - BALLAST WATER PROCESS VESSEL APPLY HIGH
 VOLTAGE ELECTRODE PLACE BALLAST WATER FLOW PATH

PN - JP2002192161 A 20020710 DW200308 C02F1/48 023pp
 IC - B63B13/00 ;C02F1/48
 MC - H03-D H03-E
 - W06-C07 X25-H03

DC - H03 Q24 W06 X25
 PA - (MITO) MITSUBISHI JUKOGYO KK
 AP - JP20000394857 20001226
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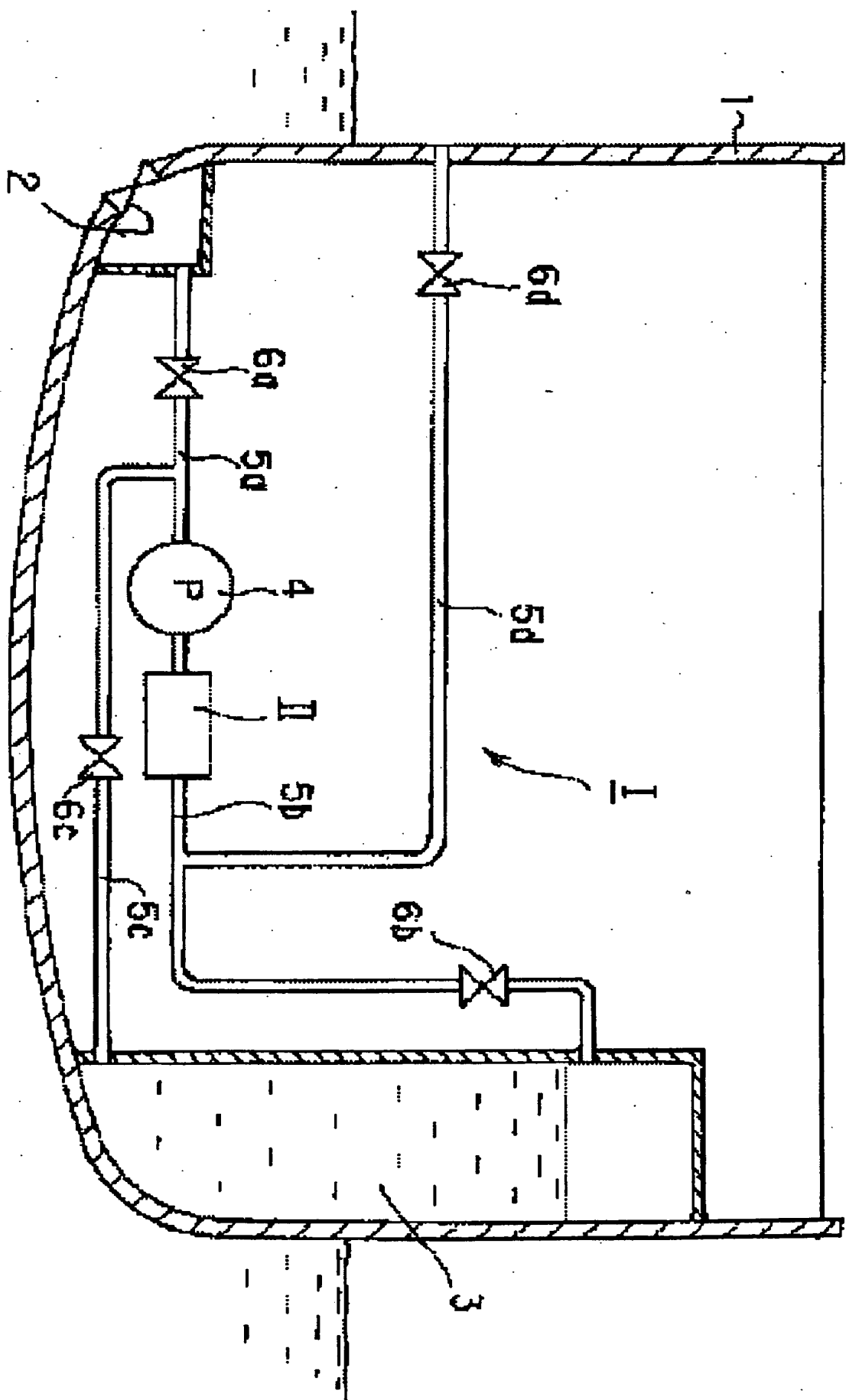
PA - MITSUBISHI HEAVY IND LTD

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KIYOTO;TANAKA YUTAKA

ABD - 20021106

ABV - 200211

AP - JP20000394857 20001226



1: 給排水系
 II: 処理部
 1: 船舶
 2: 海水吸入口
 3: パラスタック

4: パラスタック
 5a, 5b, 5c, 5d: 管路
 6a, 6b, 6c: 弁